

PATENT APPLICATION: US/09/214,851

DATE: 01/22/2003 TIME: 14:02:42

Input Set : A:\NicogenMatter2.ST25.txt Output Set: N:\CRF4\01222003\I214851.raw

```
3 <110> APPLICANT: Sellers, Edward
              Tyndale, Rachel
      6 <120> TITLE OF INVENTION: Use of Inhibitors of CYP2A6 for Regulating Nicotine
Metabolism
      8 <130> FILE REFERENCE: 62805.000002
     10 <140> CURRENT APPLICATION NUMBER: 09/214,851
     11 <141> CURRENT FILING DATE: 1999-09-09
     13 <150> PRIOR APPLICATION NUMBER: PCT/CA97/00506
     14 <151> PRIOR FILING DATE: 1997-07-17
                                                                  ENTERED
     16 <160> NUMBER OF SEQ ID NOS: 11
     18 <170> SOFTWARE: PatentIn version 3.1
     20 <210> SEQ ID NO: 1
     21 <211> LENGTH: 7215
     22 <212> TYPE: DNA
     23 <213> ORGANISM: Homo sapiens
     25 <400> SEQUENCE: 1
     26 aagttcccct gaaatatggc tctggtcttc ctccccttgc caatgaagaa gatggcagtg
                                                                               60
     28 gaggttctat ggcagccatc ctggcctcac tctgaggttc caatgaggat tctgggcatc
                                                                              120
     30 aagagacage tetgggcaaa getaaateaa gteageeeet ggaceeagtg etgggetget
                                                                              180
     32 gggetttetg ggagaacgee getgggettg etacacacte etecteecag aaacteeaca
                                                                              240
     34 cccacagece tgggtettee tageceegag aettteaagt ccatatgeet ggaateeece
                                                                              300
     36 ttcctgagac ccttaaccct gcatcctcca caacagaaga cccctaaatg cacagccaca
                                                                              360
     38 ctttgtctta ccctaataaa acccagacct ttggattcct ctcccctgga acccccagat
                                                                              420
     40 ccgcacaact ttggggtgca ttctcactct cagaccccaa atccaaagcc caagtgctcc
                                                                              480
     42 cctatgcaaa tattccaaac tcctcagttc tacagcttat ctgttgcccc ctcctaaatc
                                                                              540
     44 cacagecetg eggeaceet eetgaagtae cacagattta gtetggagge eeeetetetg
                                                                              600
     46 ttcagctgcc ctggggtccc cttatcctcc cttgctggct gtgtcccaag ctaggcagga
                                                                              660
     48 ttcatggtgg ggcatgtagt tgggaggtga aatgaggtaa ttatgtaatc agccaaagtc
                                                                              720
     50 catccctctt tttcaggcag tataaaggca aaccacccca gccgtcacca tctatcatcc
                                                                              780
                                                                              840
     52 ctctaccacc atgctggcct cagggatgct tctggtggcc ttgctggcct gcctgactgt
     54 gatggtcttg atgtctgttt ggcagcagag gaagagcaag gggaagctgc ctccgggacc
                                                                              900
     56 caccccattg cccttcattg gaaactacct gcagctgaac acagagcaga tgtacaactc
                                                                              960
     58 cctcatgaag gtgtcccaag acagggagat gggtgtctcg gggtgggggc tgcctagttg
                                                                             1020
                                                                             1080
     60 gctggggctt tgtggcaggg ggttgaccag tgtggaccag agtcttagga aatggagttt
     62 tggagtttca gcatcagaaa gacaggatct tgggatgtcc agctccctga ctgtgagaac
                                                                             1140
     64 ctgggtgcga agcatcccag cacatgacat ctcggtgctg ggccccattc agagtggagg
                                                                             1200
     66 gttctccctc taaccactcc caccacctc catcagatca gtgagcgcta tggccccgtg
                                                                             1260
     68 ttcaccattc acttggggcc ccggcgggtc gtggtgctgt gtggacatga tgccgtcagg
                                                                             1320
     70 gaggetetgg tggaccagge tgaggagtte agegggegag gegageaage cacettegae
                                                                             1380
     72 tgggtcttca aaggctatgg tgcccaagag ggggaaggtg ggcaggtgga cacgaaggtc
                                                                             1440
     74 tcagtgttcc cagccttctc cctgactctc ctgacaactg gaggataagg gagagtcccc
                                                                             1500
     76 agtotggtot tocotcocca totocctaca ttggggcotc tocatgtgta tocotcacct
                                                                             1560
     78 gtctccagcg gccctgtcct gattcctccc tgcctctctc tgccccacct ccttattctc
                                                                             1620
```

80 teteactgga gteteetett teeeetetet eteeatetet aaggacatee tgggtttetg

1680

PATENT APPLICATION: US/09/214,851

DATE: 01/22/2003 TIME: 14:02:42

82 tttaccagcc c	tgggtctct g	tctacatga g	tctttgagg	ccctcttagc	ttctgggctt	1740
84 ctctgggttt c	tcatctctc c	ggatccctt t	ctcaattct	tcctctgtct	taggatgcca	1800
86 gggttattcc t	acttccaca t	cttcaggct c	catctcctg	gtaacagtct	ctcttccttc	1860
88 cagaccctct c	tgtttctat c	tcaatatta a	actctctgc	tccagctcag	cttaagaatc	1920
90 tcacaccaaq a	gaggatgtc c	tccacccag a	atctccccat	atctcactac	cccaccctcc	1980
92 atcctctgcc t	ccatcactc t	ctttctctc c	ccactgccc	tgcggacgcg	atccaatgga	2040
94 qtqtqqaqct a	atgccgtga a	gctatgtgc a	atctctctgt	ctggccgtac	ctgggtaata	2100
96 acctgatcga c	taggcgtgg t	attcagcaa d	cggggagcgc	gccaagcagc	tcctgcgctt	2160
98 tgccatcgcc a	ccctgaggg a	cttcggggt g	gggcaagcga	ggcatcgagg	agcgcatcca	2220
100 ggaggagtcg	ggcttcctca	tcgaggccat	ccggagcacg	cacggtgagc	aggggacccc	2280
102 gagtgcgggg	gcaggagaag	gaaaacaccc	aggacgagga	acccgcgcgc	gttctgcctg	2340
104 gggatggga	ctaggtgggg	aaaggcgccc	gcacttccag	ccctggagtc	tggcgctggg	2400
106 aatttggctc	aacaaggccc	tgcctcctgg	aattctgact	ctcctcagac	ctctgagttg	2460
108 actctctccc	caaccccctt	ctcccgacat	acccggaggc	gccaatatcg:	atcccacctt	2520
110 cttcctgagc	cgcacagtct	ccaatgtcat	cagctccatt	gtctttgggg	accgctttga	2580
112 ctataaggac	aaagagttcc	tgtcactgtt	gcgcatgatg	ctaggaatct	tccagttcac	2640
114 gtcaacctcc	acggggcagg	taatggttgc	agcccggccc	: gtgaaggccc	ttaccaaaac	2700
116 cggcaaattg	ttcccctacc	qqqqqaaqqq	ggccccaaat	tcccaccgcc	ccccggacag	2760
118 tgtcccctca	aaatcaqtcc	ccgatttggg	caaattggca	gagtggaacc	agacccgggt	2820
120 taattatcca	atcccctqct	ctccagggac	accgggatag	, cacaacagat	gctccccaaa	2880
122 acagageetg	ctggcaggat	qcataccctc	agctcagctc	: tctcaccctg	ggcacgtgtt	2940
124 cccatcccca	acttaccggt	aatttctaac	agatgctccc	: tacccaggtc	: ttcttgaata	3000
126 ttttaacacc	cogaaaccct	gggtacctaa	ccttccctgt	: aaactttaga	gattagttcc	3060
128 tatccggccc	ctctgaaata	cctaaccacc	ggagaccaga	tgcctttaac	: tcagttcctt	3120
130 ccttgctatg	aaacaaatcc	cattcccatc	agetectge	ccgtgacago	tgtccttccc	3180
132 ttcccatcct	ctctctgcaa	ccccaactct	atgagatgtt	ctcttcggtg	atgaaacacc	3240
134 tgccaggacc	gcagcaacag	gcctttcagt	tactacaaqo	qctggaggac	ttcatagcca	3300
136 agaaggtgga	gcacaaccag	cacacactaa	atcccaatto	cccacgggac	: ttcattgact	3360
138 cctttctcat	ccgcatgcag	gaggtacacc	ccaqcaqcca	ctgcggggag	atgcaaagcc	3420
140 aggcagaggg	aaatcagtct	aggagtagga	caggcagato	acacaggcc	attcaaatta	3480
142 acceteatea	taataatcct	cacaattggc	tagataccat	ggctaacago	: ctgtaatccc	3540
144 agcactttgg	gaggcgagg	caggtggatc	acctgaggto	aggagttcga	gaccagcctg	3600
146 gccaacatgg	tcaaaccccq	tctctactaa	aaatccaaaa	a attagttgg	catggtggcg	3660
148 cgaagggggg	cagaggttgc	aatgagccaa	gatcacggca	a ttgcactcca	gtctgggtga	3720
150 cagaatgagg	ccctatatca	aaaaaaatta	atcacttott	taaaaaqtaa	gtgagcctgc	3780
150 cagaacgagg	acatatacaa	ctccagctac	t.caggaggct	gaggetggag	gattgcttga	3840
154 gctcaggagt	tagcatccaa	cctgtgcaac	ttagcaagag	caagtcagta	taaqaaaaaa	3900
156 aaaaaacaaa	aaaaaaacta	acagetaagt	tgataattga	a cogacagato	gtcagcaagg	3960
158 taacgaaggt	gagaageeg	accettaga	acaacacca	gagtcaggg	aagggctggt	4020
160 tectagageg	gagaaggaag	getetagggg	ccctcttctc	caccctacac	tcttgcccca	4080
160 tectagageg	ageceggeag	gatetaggge	agactcgagt	ctgtgtagat	cttagaatcc	4140
164 cctcttgacc	gagggrgcrg	tgaacctaag	aguecegag	- ccatagaata	aacccctaga	4200
164 CCtCttgacc	cccattggtc	rgaacctaag	tatactaaa	r cccctctc	cttcaggagg	4260
166 tggtgccctg	aggicaagca	ttetaettee	agaacctga	, dataaccac	r ttgaacctct	4320
168 agaagaaccc	caacacggag	atazazza	coctacact	a taacttetta	ctactcataa	4380
170 tcattgcagg	caccyagacg	gccagcacca	gagaacaaa	a ataasaaac	c ccagaccete	4440
172 agcacccaga	ggtggagggt	aaggerggag	ggggacgga	a grayagygco	accetaagac	4500
174 aaaattcccc	ttcgactggt	gcaatgtccc	teagetget	ayarcccyy,	g decergagae	4560
176 gtgacttgct	gtccagagac	agggcaacat	anttactor	a toacttota	- cccaagccca	4620
178 agatattaaa	atattgaaaa	igicigcact	garrygreag	y charicity	. cccaagecea	.020

PATENT APPLICATION: US/09/214,851

DATE: 01/22/2003 TIME: 14:02:42

4680

Input Set : A:\NicogenMatter2.ST25.txt Output Set: N:\CRF4\01222003\I214851.raw

```
180 ctgagtgccc actgcccgtt ccaccgggtc atcccctaag ttcctccctg tgcctcccct
182 gtgattctgg cacaacctgg ttaacaggat cctactccaa caatgcgaat gggtgatgtc
                                                                         4740
184 tgttctgtta tgaatgctct acttccgtct cataggcgga ggcatttcat ccaccccatt
                                                                         4800
186 ttgcctatcc ggactatcat ttcctgctct gagaccccta gatacctaaa cacattcccc
                                                                         4860
188 ctcctcccc agccaaggtc catgaggaga ttgacagagt gatcggcaag aaccggcagc
                                                                         4920
190 ccaagtttga ggaccgggcc aagatgccct acatggaggc agtgatccac gagatccaaa
                                                                         4980
192 gattiggaga cgtgatcccc atgagtttgg cccgcagagt caaaaaggac accaagtttc
                                                                         5040
194 gggatttett ceteectaag gtgetateeg eececaceee eeagactaeg gggaeteeag
                                                                         5100
196 cccctctctg tgtccccagc atcccaccca cattagaagc tttctagacc ctgtcccact
                                                                         5160
198 ccctcaatca gtcaaaaaag acttccccaa ccaccacatc cgttccacct ttccacttag
                                                                         5220
200 acactectga gteetgeate tetecagact etttgtgtea ggagaateaa acacatgtte
                                                                         5280
202 ccaaacttcc tatcttaaga aacagaagcc ccctttccat tcggcctttt gtcataggga
                                                                         5340
204 cagaaatctc aggtccccca aactcctgcc tagaaggaca tggaccccat gtctcccaaa
                                                                         5400
206 cttcctgttt cagagatgtg aaccttctat cccccaaggt cctccctcag aggtccccaa
                                                                         5460
208 ttcccatgcc tgccacttcc cctcaccggg gcaccctagt tccccctcca gcccctgtgt
                                                                         5520
210 actotoaaca atococcaac cogoctoato acatacacot tootoctoco toccagggea
                                                                         5580
212 tagaagtgtt ccctatgttg ggctccgtgc tgagagacct caggttcttc tccaaccccc
                                                                         5640
214 gggacttcaa tccccagcac ttcctgggtg agaaggggca gtttaagaag cgtgatgctt
                                                                          5700
216 ttgtgccctt ctccatcagt aagagaccac tgtttggtgc caggcttact actcacacca
                                                                          5760
218 gcaggggcct cccttaccca gttcccctct ctgccgtgta gcctagtatt tccccagctt
                                                                          5820
220 ggcaagttcc tgttagcaat ctaccgtcga gccaccaggt gatactccct taactaccaa
                                                                          5880
222 gcacccagta cctgtgccca ggcaaaagga aaggaaacat catacccctt tcagaggcgg
                                                                          5940
224 gggaaaacca aaggccagag agaatcagag atttatttcc ctagggtcac acaggagatt
                                                                          6000
226 cttcagcatc cctaaaaagg agatgacggc acagcaggtc atatttggga gttcttatct
                                                                          6060
228 gggggaaggg ggatcttaaa cctcccattg tggacacctg gcatcgatca accccatctt
                                                                          6120
 230 ttggtcatct tttgggtcac tcaaggaaac tgaggtcaag gagggtcaag aggctccctc
                                                                          6180
 232 ttaaagtctc tcagggccat atattccacc cttcctccct gggagagccg cagctggagg
                                                                          6240
 234 teggtactgg ggegaggetg cactgagagt gggetteace tecacecete eegeetetee
                                                                          6300
 236 tecteaggaa ageggaactg ttteggagaa ggeetggeea gaatggaget etttetette
                                                                          6360
 238 ttcaccaccg tcatgcagaa cttccgcctc aagtcctccc agtcacctaa ggacattgac
                                                                          6420
 240 gtgtccccca aacacgtggg ctttgccacg atcccacgaa actacaccat gagcttcctg
                                                                          6480
 242 ccccgctgag cgagggctgt gccggtgaag gtctggtggg cggggccagg gaaagggcag
                                                                          6540
 244 ggccaagacc gggcttggga gaggggcgca gctaagactg ggggcaggat ggcggaaagg
                                                                          6600
 246 aaggggcgtg gtggctagag ggaagagaag aaacagaagc ggctcagttc accttgataa
                                                                          6660
 248 ggtgcttccg agctgggatg agaggaagga aacccttaca ttatgctatg aagagtagta
                                                                          6720
 250 ataatagcag ctcttatttc ctgagcacgt acccccgtgt cacctttgtt caaaaaccat
                                                                          6780
 252 tgcacgctca cctaatttgc cacaaaaccc ccttcgaagg ggcgttcatg cccattttac
                                                                           6840
 254 acgtgacaaa actgaggctt agaaagttgt ctctgatgtc tcacaaaaca taagtgccca
                                                                           6900
 256 gaaaatctgc gaacacagat ctgtgcccat agccttctag acagattctt aaaaagcacc
                                                                           6960
 258 tattcctcac gcaaaacagt ttagtataga atcacatggc ctgaacatcc ctgtccgggg
                                                                          7020
 260 gagttcccca gagacctggg gggtggttgc cctgccttca ctgcacacat gcccacactc
                                                                           7080
 262 tcacctactc aacatgctgt gactacccgg gtgtaatctg tgcttgctac cagataaggc
                                                                           7140
 264 cactgtagcc cattcagagt cagcccaggg acacaacgag acatgactgg acatacaggg
                                                                           7200
                                                                           7215
 266 tcagtccatt aacaa
 269 <210> SEQ ID NO: 2
 270 <211> LENGTH: 1415
 271 <212> TYPE: DNA
 272 <213> ORGANISM: Homo sapiens
```

274 <400> SEQUENCE: 2

RAW SEQUENCE LISTING DATE: 01/22/2003 PATENT APPLICATION: US/09/214,851 TIME: 14:02:42

•	
275 gaatteegee etgeacceat gacegeetee caceagggee eegeeetetg eeeettttgg	60
The second secon	120
The state of the s	180
The second of the tent dealer and the tent dea	240
and the second of the condition of the c	300
	360
and the same of the same and th	420
	480
the contract and the co	540
The second of th	600
and the state of the act and act act and act act and act act act and act	660
and the setternoon antifunding according daccording	720
the take and the control of a c	780
301 gtgaattcag ccaccagaac ctcaacctca acacgetete getetettt getggcactg	840
301 gtgaattcag ccaccagaac cccaacctca acategoroo gotcaaatac cctcatgttg 303 agaccaccag caccactctc cgctacggct tcctgctcat gctcaaatac cctcatgttg	900
303 agaccaccag caccactete egetacyget testgetest getated acategoret ceagagette 305 cagagagagt ctacagggag attgaacagg teattgece acategoret ceagagette	960
305 cagagagagt ctacagggag attgaacagg tyattggccc acatogstca transfer agattttccg	1020
305 cagagagagt ctacagggag attgaacagg cagtcatcta tgagattcag agattttccg 307 atgaccgagc caaaatgcca tacacagagg cagtcatcta tgagattcag agattttccg	1080
307 atgaccgage caadatycca tacacagagy cagedon 1975 atgaccgage caagagtte caagagtaca 309 accttetee catgagtgt ceceacatt teacceaaca cacagette egagggtaca	1140
309 accticicce catgggtgtg ceceatattg toutedate tgetetecat gacceacact 311 teatececaa ggacacagaa gtatttetea teetgagcae tgetetecat gagggactga	1200
311 tcatccccaa ggacacagaa gtattteeda teetagata ggatgccaat ggggcactga 313 actttgaaaa accagacgcc ttcaatcctg accactttct ggatgccaat gggggcactga	1260
313 actitigada accagacyce tecaateety doddaraa gattigtett ggtgaaggca 315 aaaagactga agettttate eeettetet tagggaageg gattigtett ggtgaaggca	1320
CACCALCCL CLadactic Courses	1380
319 according cocagaagac atogatotga caccocagya grytageg gydaaaa	1415
321 ccccaacata ccagatccgc ttcctgcccc gctga	1.10
324 <210> SEQ ID NO: 3	
325 <211> LENGTH: 22	
326 <212> TYPE: DNA	
327 <213> ORGANISM: Artificial Sequence	
OOO OOO DEAMIDE.	
329 <2205 FEATURE: 330 <223> OTHER INFORMATION: Antisense Oligodeoxynucleotide ASO#15	
332 <400> SEQUENCE: 3	22
333 tagagggatg atagatggtg ac	
336 <210> SEQ ID NO: 4	
337 <211> LENGTH: 19	
338 <212> TYPE: DNA	
339 <213> ORGANISM: Artificial Sequence	
OLD TOOK TRANSPEA	
342 <223> OTHER INFORMATION: Antisense Oligodeoxynucleotide A30#13	
344 <400> SEQUENCE: 4	19
345 cttcatgagg gagttgtac	13
348 <210> SEQ ID NO: 5	
349 <211> LENGTH: 19	
350 <212> TYPE: DNA	
351 <213> ORGANISM: Artificial Sequence	
and cook promiter.	
353 <220> FEATURE: 354 <223> OTHER INFORMATION: Antisense Oligodeoxynucleotide ASO#25	
356 <400> SEQUENCE: 5	19
357 ggccatagcg ctcactgat	19
360 <210> SEQ ID NO: 6	
200 75102 008 10 40. 5	

DATE: 01/22/2003

PATENT APPLICATION: US/09/214,851

TIME: 14:02:42

361 <211> LENGTH: 21	
362 <212> TYPE: DNA	
363 <213> ORGANISM: Artificial Sequence	
365 <220> FEATURE:	<b>,</b>
366 <223> OTHER INFORMATION: Antisense Oligodeoxynucleotide ASO#23	,
368 <400> SEQUENCE: 6	21
369 ccatagoott tgaagacoca g	21
372 <210> SEQ ID NO: 7	
373 <211> LENGTH: 21	
374 <212> TYPE: DNA	
375 <213> ORGANISM: Artificial Sequence	
377 <220> FEATURE:	2
378 <223> OTHER INFORMATION: Antisense Oligodeoxynucleotide MSO#23	3
380 <400> SEQUENCE: 7	0.1
381 ccccagcctt tgaagacata g	21
384 <210> SEQ ID NO: 8	
385 <211> LENGTH: 32	
386 <212> TYPE: DNA	
387 <213> ORGANISM: Artificial Sequence	
389 <220> FEATURE:	
390 <223> OTHER INFORMATION: F4 Primer	
392 <400> SEQUENCE: 8	20
393 cctcccttgc tggctgtgtc ccaagcttag gc	32
396 <210> SEQ ID NO: 9	
397 <211> LENGTH: 31	
398 <212> TYPE: DNA	
399 <213> ORGANISM: Artificial Sequence	
401 <220> FEATURE:	
402 <223> OTHER INFORMATION: R4 Primer	
404 <400> SEQUENCE: 9	2.1
405 cgccccttcc tttccgccat cctgccccca g	31
408 <210> SEQ ID NO: 10	
409 <211> LENGTH: 20	
410 <212> TYPE: DNA	
411 <213> ORGANISM: Artificial Sequence	
413 <220> FEATURE:	
414 <223> OTHER INFORMATION: E3F Primer	
416 <400> SEQUENCE: 10	0.0
417 gcgtggtatt cagcaacggg	20
420 <210> SEQ ID NO: 11	
421 <211> LENGTH: 18	
422 <212> TYPE: DNA	
423 <213> ORGANISM: Artificial Sequence	
425 <220> FEATURE:	
426 <223> OTHER INFORMATION: E3R Primer	
428 <400> SEQUENCE: 11	4.0
429 tcgtgggtgt tttccttc	18

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/214,851

DATE: 01/22/2003

TIME: 14:02:43